- (g) Channels and floodways—(1) Maintenance. Periodic inspections of improved channels and floodways shall be made by the Superintendent to be certain that:
- (i) The channel or floodway is clear of debris, weeds, and wild growth;
- (ii) The channel or floodway is not being restricted by the depositing of waste materials, building of unauthorized structures or other encroachments;
- (iii) The capacity of the channel or floodway is not being reduced by the formation of shoals;
- (iv) Banks are not being damaged by rain or wave wash, and that no sloughing of banks has occurred;
- (v) Riprap sections and deflection dikes and walls are in good condition;
- (vi) Approach and egress channels adjacent to the improved channel or floodway are sufficiently clear of obstructions and debris to permit proper functioning of the project works.

Such inspections shall be made prior to the beginning of the flood season and otherwise at intervals not to exceed 90 days. Immediate steps will be taken to remedy any adverse conditions disclosed by such inspections. Measures will be taken by the Superintendent to promote the growth of grass on bank slopes and earth deflection dikes. The Superintendent shall provide for periodic repair and cleaning of debris basins, check dams, and related structures as may be necessary.

(2) Operation. Both banks of the channel shall be patrolled during periods of high water, and measures shall be taken to protect those reaches being attacked by the current or by wave wash. Appropriate measures shall be taken to prevent the formation of jams of ice or debris. Large objects which become lodged against the bank shall be removed. The improved channel or floodway shall be thoroughly inspected immediately following each major high water period. As soon as practicable thereafter, all snags and other debris shall be removed and all damage to banks, riprap, deflection dikes and walls, drainage outlets, or other flood

control structures repaired.
(h) *Miscellaneous facilities*—(1) *Maintenance*. Miscellaneous structures and facilities constructed as a part of the

protective works and other structures and facilities which function as a part of, or affect the efficient functioning of the protective works, shall be periodically inspected by the Superintendent and appropriate maintenance measures taken. Damaged or unserviceable parts shall be repaired or replaced without delay. Areas used for ponding in connection with pumping plants or for temporary storage of interior run-off during flood periods shall not be allowed to become filled with silt, debris, or dumped material. The Superintendent shall take proper steps to prevent restriction of bridge openings and, where practicable, shall provide for temporary raising during floods of bridges which restrict channel capacities during high flows.

(2) Operation. Miscellaneous facilities shall be operated to prevent or reduce flooding during periods of high water. Those facilities constructed as a part of the protective works shall not be used for purposes other than flood protection without approval of the District Engineer unless designed therefor.

(Sec. 3, 49 Stat. 1571, as amended; 33 U.S.C. 701c)

[9 FR 9999, Aug. 17, 1944; 9 FR 10203, Aug. 22, 1944]

- § 208.11 Regulations for use of storage allocated for flood control or navigation and/or project operation at reservoirs subject to prescription of rules and regulations by the Secretary of the Army in the interest of flood control and navigation.
- (a) Purpose. This regulation prescribes the responsibilities and general procedures for regulating reservoir projects capable of regulation for flood control or navigation and the use of storage allocated for such purposes and provided on the basis of flood control and navigation, except projects owned and operated by the Corps of Engineers; the International Boundary and Water Commission, United States and Mexico; and those under the jurisdiction of the International Joint Commission, United States, and Canada, and the Columbia River Treaty. The intent of this regulation is to establish an understanding between project owners, operating agencies, and the Corps of Engineers.

(b) Responsibilities. The basic responsibilities of the Corps of Engineers regarding project operation are set out in the cited authority and described in the following paragraphs:

(1) Section 7 of the Flood Control Act of 1944 (58 Stat. 890, 33 U.S.C. 709) directs the Secretary of the Army to prescribe regulations for flood control and navigation in the following manner:

Hereafter, it shall be the duty of the Secretary of War to prescribe regulations for the use of storage allocated for flood control or navigation at all reservoirs constructed wholly or in part with Federal funds provided on the basis of such purposes, and the operation of any such project shall be in accordance with such regulations: Provided, That this section shall not apply to the Tennessee Valley Authority, except that in case of danger from floods on the lower Ohio and Mississippi Rivers the Tennessee Valley Authority is directed to regulate the release of water from the Tennessee River into the Ohio River in accordance with such instructions as may be issued by the War Depart-

(2) Section 9 of Public Law 436-83d Congress (68 Stat. 303) provides for the development of the Coosa River, Alabama and Georgia, and directs the Secretary of the Army to prescribe rules and regulations for project operation in the interest of flood control and navigation as follows:

The operation and maintenance of the dams shall be subject to reasonable rules and regulations of the Secretary of the Army in the interest of flood control and navigation.

NOTE: This Regulation will also be applicable to dam and reservoir projects operated under provisions of future legislative acts wherein the Secretary of the Army is directed to prescribe rules and regulations in the interest of flood control and navigation. The Chief of Engineers, U.S. Army Corps of Engineers, is designated the duly authorized representative of the Secretary of the Army to exercise the authority set out in the Congressional Acts. This Regulation will normally be implemented by letters of understanding between the Corps of Engineers and project owner and will incorporate the provisions of such letters of understanding prior to the time construction renders the project capable of significant impoundment of water. A water control agreement signed by both parties will follow when deliberate impoundment first begins or at such time as the responsibilities of any Corps-owned projects may be transferred to another entity. Promulgation of this Regulation for a given project will occur at such time as the name of the project appears in the FEDERAL REGISTER in accordance with the requirements of paragraph 6k. When agreement on a water control plan cannot be reached between the Corps and the project owner after coordination with all interested parties, the project name will be entered in the FEDERAL REGISTER and the Corps of Engineers plan will be the official water control plan until such time as differences can be resolved.

- (3) Federal Energy Regulatory Commission (FERC), formerly Federal Power Commission (FPC), Licenses.
- (i) Responsibilities of the Secretary of the Army and/or the Chief of Engineers in FERC licensing actions are set forth in reference 3c above and pertinent sections are cited herein. The Commission may further stipulate as a licensing condition, that a licensee enter into an agreement with the Department of the Army providing for operation of the project during flood times, in accordance with rules and regulations prescribed by the Secretary of the Army.
- (A) Section 4(e) of the Federal Power Act requires approval by the Chief of Engineers and the Secretary of the Army of plans of dams or other structures affecting the navigable capacity of any navigable waters of the United States, prior to issuance of a license by the Commission as follows:

The Commission is hereby authorized and empowered to issue licenses to citizens for the purpose of constructing, operating and maintaining dams, water conduits, reservoirs, powerhouses, transmission lines, or other project works necessary or convenient for the development and improvement of navigation and for the development, transmission, and utilization of power across, along, from or in any of the streams or other bodies of water over which Congress has jurisdiction * * * Provided further, That no license affecting the navigable capacity of any navigable waters of the United States shall be issued until the plans of the dam or other structures affecting navigation have been approved by the Chief of Engineers and the Secretary of the Army.

- (B) Sections 10(a) and 10(c) of the Federal Power Act specify conditions of project licenses including the following:
- (1) Section 10(a). "That the project adopted * * * shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan

for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, and for other beneficial public uses * * *."

- (2) Section 10(c). "That the licensee shall * * * so maintain and operate said works as not to impair navigation, and shall conform to such rules and regulations as the Commission may from time to time prescribe for the protection of life, health, and property * * * * "
- (C) Section 18 of the Federal Power Act directs the operation of any navigation facilities built under the provision of that Act, be controlled by rules and regulations prescribed by the Secretary of the Army as follows:

The operation of any navigation facilities which may be constructed as part of or in connection with any dam or diversion structure built under the provisions of this Act, whether at the expense of a licensee hereunder or of the United States, shall at all times be controlled by such reasonable rules and regulations in the interest of navigation; including the control of the pool caused by made from time to time by the Secretary of the Army, * * *.

(ii) Federal Power Commission Order No. 540 issued October 31, 1975, and published November 7, 1975 (40 FR 51998), amending §2.9 of the Commission's General Policy and Interpretations prescribed Standardized Conditions (Forms) for Inclusion in Preliminary Permits and Licenses Issued Under part I of the Federal Power Act. As an example, Article 12 of Standard Form L-3, titled: "Terms and Conditions of License for Constructed Major Projects Affecting Navigable Waters of the United States," sets forth the Commission's interpretation of appropriate sections of the Act, which deal with navigation aspects, and attendant responsibilities of the Secretary of the Army in licensing actions as follows:

The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be

controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, * * * and the Licensee shall release water from the project reservoir at such rate * * * as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

- (c) Scope and terminology. This regulation applies to Federal authorized flood control and/or navigation storage projects, and to non-Federal projects which require the Secretary of the Army to prescribe regulations as a condition of the license, permit or legislation, during the planning, design and construction phases, and throughout the life of the project. In compliance with the authority cited above, this regulation defines certain activities and responsibilities concerning water control management throughout the Nation in the interest of flood control and navigation. In carrying out the conditions of this regulation, the owner and/or operating agency will comply with applicable provisions of Pub. L. 85-624, the Fish and Wildlife Coordination Act of 1958, and Pub. L. 92-500, the Federal Water Pollution Control Act Amendments of 1972. This regulation does not apply to local flood protection works governed by §208.10, or to navigation facilities and associated structures which are otherwise covered by part 207 (Navigation Regulations) of title 33 of the code. Small reservoirs, containing less than 12,500 acre-feet of flood control or navigation storage, may be excluded from this regulation and covered under §208.10, unless specifically required by law or conditions of the license or permit.
- (1) The terms *reservoir* and *project* as used herein include all water resource impoundment projects constructed or modified, including natural lakes, that are subject to this regulation.
- (2) The term *project owner* refers to the entity responsible for maintenance, physical operation, and safety of the project, and for carrying out the water control plan in the interest of flood control and/or navigation as prescribed by the Corps of Engineers. Special arrangements may be made by the

project owner for "operating agencies" to perform these tasks.

(3) The term *letter of understanding* as used herein includes statements which consummate this regulation for any given project and define the general provisions or conditions of the local sponsor, or owner, cooperation agreed to in the authorizing legislative document, and the requirements for compliance with section 7 of the 1944 Flood Control Act, the Federal Power Act or other special congressional act. This information will be specified in the water control plan and manual. The letter of understanding will be signed by a duly authorized representative of the Chief of Engineers and the project owner. A "field working agreement" may be substituted for a letter of understanding, provided that the specified minimum requirements of the latter, as stated above, are met.

(4) The term water control agreement refers to a compliation of water control criteria, guidelines, diagrams, release schedules, rule curves and specifications that basically govern the use of reservoir storage space allocated for flood control or navigation and/or release functions of a water control project for these purposes. In general, they indicate controlling or limiting rates of discharge and storage space required for flood control and/or navigation, based on the runoff potential during various seasons of the year.

(5) For the purpose of this regulation, the term *water control plan* is limited to the plan of regulation for a water resources project in the interest of flood control and/or navigation. The water control plan must conform with proposed allocations of storage capacity and downstream conditions or other requirements to meet all functional objectives of the particular project, acting separately or in combination with other projects in a system.

(6) The term *real-time* denotes the processing of current information or data in a sufficiently timely manner to influence a physicial response in the system being monitored and controlled. As used herein the term connotes * * * the analyses for and execution of water control decisions for both minor and major flood events and for navigation, based on prevailing

hydrometeorological and other conditions and constraints, to achieve efficient management of water resource systems.

(d) Procedures—(1) Conditions during project formulation. During the planning and design phases, the project owner should consult with the Corps of Engineers regarding the quantity and value of space to reserve in the reservoir for flood control and/or navigation purposes, and for utilization of the space, and other requirements of the license, permit or conditions of the law. Relevant matters that bear upon flood control and navigation accomplishment include: Runoff potential, reservoir discharge capability, downstream channel characteristics. hydrometeorological data collection, flood hazard, flood damage characteristics, real estate acquisition for flowage requirements (fee and easement), and resources required to carry out the water control plan. Advice may also be sought on determination of and regulation for the probable maximum or other design flood under consideration by the project owner to establish the quantity of surcharge storage space, and freeboard elevation of top of dam or embankment for safety of the project.

(2) Corps of Engineers involvement. If the project owner is responsible for real-time implemenetation of the water control plan, consultation and assistance will be provided by the Corps of Engineers when appropriate and to the extent possible. During any emergency that affects flood control and/or navigation, the Corps of Engineers may temporarily prescribe regulation of flood control or navigation storage space on a day-to-day (realtime) basis without request of the project owner. Appropriate consideration will be given for other authorized project functions. Upon refusal of the project owner to comply with regulations prescribed by the Corps of Engineers, a letter will be sent to the project owner by the Chief of Engineers or his duly authorized representative describing the reason for the regulations prescribed, events that have transpired, and notification that the project owner is in violation of the Code of Federal Regulations. Should an

impasse arise, in that the project owner or the designated operating entity persists in noncompliance with regulations prescribed by the Corps of Engineers, measures may be taken to assure compliance.

(3) Corps of Engineers implementation of real-time water control decisions. The Corps of Engineers may prescribe the continuing regulation of flood control storage space for any project subject to this regulation on a day-to-day (real-time) basis. When this is the case, consultation and assistance from the project owner to the extent possible will be expected. Special requests by the project owner, or appropriate operating entity, are preferred before the Corps of Engineers offers advice on real-time regulation during surcharge

storage utilization.

(4) Water control plan and manual. Prior to project completion, water control managers from the Corps of Engineers will visit the project and the area served by the project to become familiar with the water control facilities, and to insure sound formulation of the water control plan. The formal plan of regulation for flood control and/or navigation, referred to herein as the water control plan, will be developed and documented in a water control manual prepared by the Corps of Engineers. Development of the manual will be coordinated with the project owner to obtain the necessary pertinent information, and to insure compatibility with other project purposes and with surcharge regulation. Major topics in the manual will include: Authorization description of the project, hydrometeorology, data collection and communication networks, hydrologic forecasting, the water control plan, and water resource management functions, including responsibilities and coordination for water control decisionmaking. Special instructions to the dam tender or reservoir manager on data collection, reporting to higher Federal authority, and on procedures to be followed in the event of a communication outage under emergency conditions, will be prepared as an exhibit in the manual. Other exhibits will include copies of this regulation, letters of understanding consummating this regulation, and the water control

agreements. After approval by the Chief of Engineers or his duly authorized representative, the manual will be furnished the project owner.

(5) Water control agreement. (i) A water control diagram (graphical) will be prepared by the Corps of Engineers for each project having variable space reservation for flood control and/or navigation during the year; e.g., variable seasonal storage, joint-use space, or other rule curve designation. Reservoir inflow parameters will be included on the diagrams when appropriate. Concise notes will be included on the diagrams prescribing the use of storage space in terms of release schedules, runoff, nondamaging or other controlling flow rates downstream of the damsite, and other major factors as appropriate. A water control release schedule will be prepared in tabular form for projects that do not have variable space reservation for flood control and/or navigation. The water control diagram or release schedule will be signed by a duly authorized representative of the Chief of Engineers, the project owner, and the designated operating agency, and will be used as the basis for carrying out this regulation. Each diagram or schedule will contain a reference to this regulation.

(ii) When deemed necessary by the Corps of Engineers, information given on the water control diagram or release schedule will be supplemented by appropriate text to assure mutual understanding on certain details or other important aspects of the water control plan not covered in this regulation, on the water control diagram or in the release schedule. This material will include clarification of any aspects that might otherwise result in unsatisfactory project performance in the interest of flood contol and/or navigation. Supplementation of the agreement will be necessary for each project where the Corps of Engineers exercises the discretionary authority to prescribe the flood control regulation on a day-today (real-time) basis. The agreement will include delegation of the responsibility. The document should also cite, as appropriate, section 7 of the 1944 Flood Control Act, the Federal Power

Act and/or other congressional legislation authorizing construction an/or directing operation of the project.

(iii) All flood control regulations published in the FEDERAL REGISTER under this section (part 208) of the code prior to the date of this publication which are listed in §208.11(e) are hereby superseded.

(iv) Nothing in this regulation prohibits the promulgation of specific regulations for a project in compliance with the authorizing acts, when agreement on acceptable regulations cannot be reached between the Corps of Engineers and the owner.

(6) Hydrometeorological instrumentation. The project owner will provide instrumentation in the vicinity of the damsite and will provide communication equipment necessary to record and transmit hydrometeorological and reservoir data to all appropriate Federal authorities on a real-time basis unless there are extenuating circumstances or are otherwise provided for as a condition of the license or permit. For those projects where the owner retains responsibility for real-time implementation of the water control plan, the owner will also provide or arrange for the measurement and reporting of hydrometeorological parameters quired within and adjacent to the watershed and downstream of the damsite, sufficient to regulate the project for flood control and/or navigation in an efficient manner. When data collection stations outside the immediate vicinity of the damsite are reguired, and funds for installation, observation, and maintenance are not available from other sources, the Corps of Engineers may agree to share the costs for such stations with the project owner. Availability of funds and urgency of data needs are factors which will be considered in reaching decisions on cost sharing.

(7) Project safety. The project owner is responsible for the safety of the dam and appurtenant facilities and for regulation of the project during surcharge storage utilization. Emphasis upon the safety of the dam is especially important in the event surcharge storage is utilized, which results when the total storage space reserved for flood control is exceeded. Any assistance provided by

the Corps of Engineers concerning surcharge regulation is to be utilized at the discretion of the project owner, and does not relieve the owner of the responsibility for safety of the project.

(8) Notification of the general public. The Corps of Engineers and other interested Federal and State agencies, and the project owner will jointly sponsor public involvement activities, as appropriate, to fully apprise the general public of the water control plan. Public meetings or other effective means of notification and involvement will be held, with the initial meeting being conducted as early as practicable but not later than the time the project first becomes operational. Notice of the initial public meeting shall be published once a week for 3 consecutive weeks in one or more newspapers of general circulation published in each county covered by the water control plan. Such notice shall also be used when appropriate to inform the public of modifications in the water control plan. If no newspaper is published in a county, the notice shall be published in one or more newspapers of general circulation within that county. For the purposes of this section a newspaper is one qualified to publish public notices under applicable State law. Notice shall be given in the event significant problems are anticipated or experienced that will prevent carrying out the approved water control plan or in the event that an extreme water condition is expected that could produce severe damage to property or loss of life. The means for conveying this information shall be commensurate with the urgency of the situation. The water control manual will be made available for examination by the general public upon request at the appropriate office of the Corps of Engineers, project owner or designated operating agency.

(9) Other generalized requirements for flood control and navigation. (i) Storage space in the reservoirs allocated for flood control and navigation purposes shall be kept available for those purposes in accordance with the water control agreement, and the plan of regulation in the water control manual.

(ii) Any water impounded in the flood control space defined by the water control agreement shall be evacuated as rapidly as can be safely accomplished without causing downstream flows to exceed the controlling rates; i.e., releases from reservoirs shall be restricted insofar as practicable to quantities which, in conjunction with uncontrolled runoff downstream of the dam, will not cause water levels to exceed the controlling stages currently in force. Although conflicts may arise with other purposes, such as hydropower, the plan or regulation may require releases to be completely curtailed in the interest of flood control or safety of the project.

(iii) Nothing in the plan of regulation for flood control shall be construed to require or allow dangerously rapid changes in magnitudes of releases. Releases will be made in a manner consistent with requirements for protecting the dam and reservoir from major damage during passage of the maximum design flood for the project.

(iv) The project owner shall monitor current reservoir and hydro- meteorological conditions in and adjacent to the watershed and downstream of the damsite, as necessary. This and any other pertinent information shall be reported to the Corps of Engineers on a timely basis, in accordance with standing instructions to the damtender or other means requested by the Corps of Engineers.

(v) In all cases where the project owner retains responsibility for real-time implementation of the water control plan, he shall make current determinations of: Reservoir inflow, flood control storage utilized, and scheduled releases. He shall also determine storage space and releases required to comply with the water control plan prescribed by the Corps of Engineers. The owner shall report this information on a timely basis as requested by the Corps of Engineers.

(vi) The water control plan is subject to temporary modification by the Corps of Engineers if found necessary in time of emergency. Requests for and action on such modifications may be made by the fastest means of communication available. The action taken shall be confirmed in writing the same day to the project owner and shall include justification for the action.

(vii) The project owner may temporarily deviate from the water control plan in the event an immediate shortterm departure is deemed necessary for emergency reasons to protect the safety of the dam, or to avoid other serious hazards. Such actions shall be immediately reported by the fastest means of communication available. Actions shall be confirmed in writing the same day to the Corps of Engineers and shall include justification for the action. Continuation of the deviation will require the express approval of the Chief of Engineers, or his duly authorized representative.

(viii) Advance approval of the Chief of Engineers, or his duly authorized representative, is required prior to any deviation from the plan of regulation prescribed or approved by the Corps of Engineers in the interest of flood control and/or navigation, except in emergency situations provided for in paragraph (d)(9)(vii) of this section. When conditions appear to warrant a prolonged deviation from the approved plan, the project owner and the Corps of Engineers will jointly investigate and evaluate the proposed deviation to insure that the overall integrity of the plan would not be unduly compromised. Approval of prolonged deviations will not be granted unless such investigations and evaluations have been conducted to the extent deemed necessary by the Chief of Engineers, or his designated representatives, to fully substantiate the deviation.

(10) Revisions. The water control plan and all associated documents will be revised by the Corps of Engineers as necessary, to reflect changed conditions that come to bear upon flood control and navigation, e.g., reallocation of reservoir storage space due to sedimentation or transfer of storage space to a neighboring project. Revision of the water control plan, water control agreement, water control diagram, or release schedule requires approval of the Chief of Engineers or his duly authorized representative. Each such revision shall be effective upon the date specified in the approval. The original (signed document) water control agreement shall be kept on file in the respective Office the Division Engineer, Corps of Engineers, Department of the

Army, located at division offices throughout the continental USA. Copies of these agreements may be obtained from the office of the project owner, or from the office of the appropriate Division Engineer, Corps of Engineers.

- (11) Federal Register. The following information for each project subject to section 7 of the 1944 Flood Control Act and other applicable congressional acts shall be published in the FEDERAL REGISTER prior to the time the projects becomes operational and prior to any significant impoundment before project completion or * * * at such time as the responsibility for physical operation and maintenance of the Corps of Engineers owned projects is transferred to another entity:
 - (i) Reservoir, dam, and lake names,

- (ii) Stream, county, and State corresponding to the damsite location,
- (iii) The maximum current storage space in acre-feet to be reserved exclusively for flood control and/or navigation purposes, or any multiple-use space (intermingled) when flood control or navigation is one of the purposes, with corresponding elevations in feet above mean sea level, and area in acres, at the upper and lower limits of said space,
- (iv) The name of the project owner, and
- (v) Congressional legislation authorizing the project for Federal participation.
- (e) List of projects. The following tables, "Pertinent Project Data—Section 208.11 Regulation," show the pertinent data for projects which are subject to this regulation.

LIST OF PROJECTS
[Non-Corps projects with Corps Regulation Requirements]

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	ć		Č	Project	Storage	Elev limits feet M.S.L.	its feet L.	Area in acres	acres		
roject name	Sigle	Coding	0.000	purpóse 2	1000 ĂF	Upper	Lower	Upper	Lower	Additionizing regis.	rioj. owiei
Col. No. 1	2	3	4	5	9	7	8	6	10	11	12
Agency Valley Dam & Res	OR		Œ	FICR	0.09	3340.0	3263.0	1900	0	PL 68–292	USBR.
Alpine Dam	_		-	L	9.0	796.0	760.0	25	0	PWA Proj	Rkfd, IL.
Altus Dam & Res	ð	Jackson	N Fork Red R		19.6	1562.0	1559.0	0890	6260	PL 761	USBR.
				Ψ.Ε.	132.6	1559.0	1517.5P	6260	735		
Anderson Ranch Dam & Res	_	Elmore	S Fk Boise R		423.2	4196.0	4039.6	4740	1150	Act of 1939 53 Stat 1187.	USBR.
Arbuckle Dam & Res	ð	Murray	Rock Cr	MBC	36.4	885.3	872.0	3130	2350	PL 594	USBR.
Arrowrock Dam & Res	₽	Elmore	Boise R	Œ	286.6	3216.0	2974.0	3100	200	Act of 1902 32 Stat	USBR.
										388.	
Bear Cr Dam	Q W			ш	8.7	246.5	520.0	240	0	PL 83-780	Hnbl, MO.
Bear Swamp Fife Brook (Lo)	¥			ш	6.9	870.0	830.0	152	115	FERC 2669	NEPC.
Bear Swamp PS (Upper)	MA	Franklin	Deerfield R Trib	Ш	8.9	1600.0	1550.0	118	102	Fed Pwr Act	NEPC.
Bellows Falls Dam & Lk	5	Cheshire		Ш	7.5	291.6	273.6	2804	836	FERC 1885	NEPC.
Big Dry Creek and Div	S	Fresno	Big Dry Cr & Dog Cr.	ш	16.2	425.0	393.0	1530	0	PL 77–228	Rclm, B CA.
Blue Mesa Dam & Res	8		Gunnison R	FER	748.5	7519.4	7393.0	9180	2790	PL 84-485	USBR
Boca Dam & Res	8	Nevada	Little Truckee R	-	32.8	5296.5	5521.0	873	25	PL 61-289	USBR.
				<u></u>	8.0	5605.0	5596.0	086	873	PL 68-292	
Bonny Dam & Res	8	Yuma	S Fork Republic R	L.	128.2	3710.0	3672.0	5036	2042	PL 78–534	USBR.
				ICR	39.2	3672.0	3638.0	2042	331	PL 79–732	
Boysen Dam & Res	≽	Fremont	Wild R	L L	150.4	4732.2	4725.0	22170	19560	PL 78–534	USBR.
				2 0	403.8	4717.0	4685.0	16960	9280		
Brantley Dam & Res	ΣZ	Eddy	Pecos R	FIRO	348.5	3283.0	3210.7	21294	88	PL 92-515	USBR.
Brownlee Dam & Res	A :		Snake R	Ξ	975.3	2077.0	1976.0	13840	0999	FERC No 1971-C	ID Pwr.
() ()	2 5		=	ī	0	0	0	0	,	0	0
Bully or Dam & Res	56		Bully Cr		9.1.0	2516.0	2456.8	780	140	PL 86-248	USBR.
Camanche Dam & nes	5	San Joaquin	Mokelullile n		230.9	205.1	92.0	5507	0000	FL 00-043	ED-MOD.
Canyon Ferry Dam & Lk	M	Lewis Clark	Missouri R	Ш	99.5	3800.0	3797.0	33535	32800	PL 78–534	USBR.
				FEI	795.1	3797.0	3770.0	32800	24125		
					711.5	3770.0	3728.0	24125	11480		
Cedar Bluff Dam & Res	S S	Trego	Smoky Hill R	L :	191.9	2166.0	2144.0	10790	6989	PL 78–534	USBR.
			:	IMCR	149.8	2144.0	2107.8	6989	2086		1
Cheney Dam & Res	S.	Sedgwick	N Fork Ninnescah	. Δ	80.9	1429.9	1421.6	12420	9540	PL 86–787	USBR.
		_	ć	 	0.0	0.0	0.0	50	0/6		

LIST OF PROJECTS—Continued [Non-Corps projects with Corps Regulation Requirements]

						Elev limits feet	ts feet	Area in acres	acres		
Project name 1	State	County	Stream 1	Project purpose 2	Storage 1000 AF	Upper Upper	Lower	Upper	Lower	Authorizing legis. 3	Proj. owner ⁴
Col. No. 1	8	ო	4	S	9	7	80	6	10	1	12
Clark Canyon Dam & Res	M	Beaverhead	Beaverhead R	щ	79.1	5560.4	5546.1	5900	5160	PL 78–534	USBR.
					126.1	5535.7	5470.6	4495	220		
Del Valle Dam & Res	S	Alameda	Alameda Cr	<u>.</u>	37.0	745.0	703.1	1060	710	PL 87–874	DWR.
	_			<u> </u>	29.0	702.2	635.0	2 00	275		÷
Don Pedro Dam & Lk	ð	Tuolumne	Tuolumne R	FIER	340.0	830.0	802.0	12900	11260	PL 78-534	M&T.
				EIR	1381.0	802.0	600.0	11260	3520		<u>=</u>
East Canvon Dam & Res	5	Morgan	East Canvon Cr	FEIM	48.0	5705.5	5578.0	684	130	PL 81–273	USBR.
Echo Dam & Res	5		_	FEIM	74.0	5560.0	5450.0	1455	0	PL 81-83	USBR.
Emigrant Dam & Res	OR			FIR	39.0	2241.0	2131.5	801	80	PL 83-606	USBR.
Enders Dam & Res	뮏	Chase	Frenchman Cr	ш	30.0	3127.0	3112.3	2405	1707	PL 78-534	USBR.
				ICB	34.5	3112.3	3082.4	1707	658	PL 84-505	1
Folsom Dam & LK	Š	Sacramento	American H	 LEIS	400.0	466.0	427.0	11450	9040		USBR.
20 P	Š	Copoci	Dond (Cobb) Cr	 ∑	610.0	1257.0	1949.0	9040	7	710	daoil
	<u></u>		10 (2000) pilo -	N N	78.3	1342.0	1300.0	4100	337	2	
Foss Dam & Res	ð	Custer	Washita R	Ш	180.6	1668.6	1652.0	13140	8800	PL 419	USBR.
				IMRC	243.8	1652.0	1597.2	8800	1360		
Friant Dam & Millerton Lk	CA	Fresno	San Joaquin R	FEIM	390.5	578.0	466.3	4850	2101	PL 75-392	USBR.
										PL 76-868	
Galesville Dam	OR	Douglas	Cow Cr	FEMCR	42.2	1881.5	1780.0	200	150	FERC No. 71	Dgls, CO.
2000 0000	2	20%	0 0/0000		0 63	0 000	0000	22500	00000	Fod Day Act	// Day
Gasion Dail & nes	2		חטמווטגפ	 U	0.50	703.0	200.0	00622	20200		. LwL
Glen Elder Dam & Waconda Lk	Ş	_	Solomon R	L	722.3	1488.3	1455.6	33682	12602	PL 78–534	USBR.
					204.8	1455.6	1428.0	12602	3341	PL 79-526	
Glendo Dam & Res	⋛	Platte	N Platte R	L	271.9	4653.0	4635.0	17990	12370	PL 78–534	USBR.
				EIM	454.3	4635.0	4570.0	12370	3130		
Grand Coulee Dam & FDR Lk	× ×	_	Columbia R		5185.5	1290.0	1208.0	82280	45592	PL 89-561	USBR.
H Neely Henry Dam & Res	₹		Coosa R	H	49.7	508.0	502.5	11235	7632	PL 83-436	AL Pwr.
Harris Dam & Res	¥		Tallapoosa R	H	215.0	793.0	785.0	10661	9012	PL 89-789	AL Pwr.
Heart Butte Dm & Lk Tschida	Q.	Grant	Heart R	ш	147.9	2094.5	2064.5	6580	3400	PL 78–534	USBR.
				g	0.69	2064.5	2030.0	3400	810		!
Hells Canyon Dam & Res	8 <u>6</u>		Snake R	 И	11.7	1688.0	1683.0	2380	2280	FERC No 1971-A	ID Pwr.
Hower Park Manager	2 ≥	Clark Mohava	a oberolo	Ц	1500	1000 0	10106	162700	156500	DI 70_642	aasii
ביייייייי אופמע יייייייייייייייייייייייייייייייייייי	ξX			FEIMCAR	15.8	1219.6	1083.0	156500	83500		
Hungry Horse Dam & Res	Ψ	Flathead	S Fork Flathead R	LE LE	2982.0	3560.0	3336.0	23800	5400	PL 78-329 USBR.	USBR.

Yolo FC&W.	USBR.	1	USBR Pwr.	MT Pwr	GRD Auth.		USBR.		USBR.		Call	W & C	Appl Pwr.		USBR.	AL Pwr.	0001		Y L N	0001	USBB.		USBR.	USBR.		USBR.		Tac WN.	USBR.		USBR.	14747 - E	lac, win	USBR.		USBR.	YCWA.		Mrcd, Irr.			USBR.	
PL 84–984	PL 78–534		FERC 2503	FFBC No 5	PL 76–476		PL 78-534		PL 78–534	PL 79-732; PL 79-	526. SD 144	<u> </u>	Fed Pwr Act		PL 84-485	Fed Pwr Act	000	PL 04-993	TL 001400		PI 86_488		PL 81–273	PL 78-534	PL 79-732	PL 73-392	PL 78–534	FPC No 2016-A	PL 94-423		PL 78–534	PL 84-505	FERC NO 2016-B	PL 90-503		PL 84-485	PL 89-298		PL 86-645			PL 87-874	
3734	308 2090	160	6815	120000	10900	4500	9410	820	2080	1010	1,5500	0000	2400		62	21200		1 1 2 2 2	11007	200	467	Ì	93	2986	1704	18955	8020	2030	3810	370	1840	107	4250	6400	12/0	7400	4225	129	4849	1900	120	10900	3500
3975	37.34 13210	2090	7565	125560	18800	10900	13730	9410	10640	2080	00000	7,000	3235		622	25700	0031	2/6	16262	13203	407	2	365	5025	2986	29060	18955	2250	2240	3810	3483	1840	1830	7130	9400	15610	4809	4225	7110	4849	1900	12500	10900
1474.0	1429.8	1400.0	1080.0	2883.0	619.0	599.0	4099.3	4051.0	1729.3	1697.0	1177	7	600.0		8023.0	510.0	100.0	4.721.0	463.0	100.0	2.1.C2 2.7.C2	0. 120	5912.0	1582.6	1571.7	681.0	618.0	415.0	577.1	515.1	2366.1	2343.0	0.000	1411.0	1380.3	5990.0	1918.3	1447.5	7.667	0.099	467.0	1049.5	808.0
1485.0	14/4.0	1429.8	1110.0	2893.0	636.0	619.0	4111.5	4099.3	1757.3	1729.2	1156.0	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	613.0		8148.0	522.0	0.000	5537.3	477.0	100.0	353.5	5.5	6005.0	1595.3	1582.6	714.0	681.0	425.0	595.5	577.7	2386.2	2306.1	7/8.5	1414.0	0.1141	6085.0	1956.0	1918.3	867.0	799.7	0.099	1088.0	1049.5
40.0	185.4	28.1	1160.0	1219.0	244.2	48.6	140.5	185.8	215.1	9.68	0 700	0.4.0	37.8		39.0	280.6	5.0	30.00	243.3	0.70	14.0	<u> </u>	20.0	50.5	24.9	779.8	810.5	21.4	85.3	108.0	52.7	2007	0.7881	20.3	0.68	1036.1	170.0	790.9	400.0	451.6	171.0	450.0	1670.0 300.0
FIMR	ĭ E IL	<u>o</u> :	PRFC	1 H	L	Ш	ш	₫	L.	CH	Ц	NAI	ВЩ		FIM	L U					С Ц		FEIM	ш	ICR	<u> </u>	NEIM	FER	ш.	MCB	T 6	5 [¥.	T .	ME	FEIRO	FEIMR	EIMR	FEIR	EIR	В	FEIMR	EIMR IMR
N Fork Cache Cr	James R	:	Keowee R	Flathead R	Grand Neosho R		Belle Fourche R		N Fork Solomon R		O ctidoity		Roanoke R		Florida R	Sipsey Fork; Black	i#lo \\\ood D	Copp B	C035d T	200000	Los Banos Cr	Eds Dallos Ol	Lost Cr	White Rock Cr		Colorado R		Cowlitz R	McGee Cr		Medicine Cr	1	Cowiliz H	w Offer Cr		San Juan R	Yuba R		Merced R			Stanislaus R	
Lake	Stutsman	·	Pickens	l ake	Mayes		Crook		Phillips		Wichita	WICHIGA	Campbell	Pttsylvnia.	La Plata	Walker Culman		Tollodogo	alladeya	No.	Merced		Morgan	Jewell		Travis		Lewis	Atoka		Frontier	-	Lewis	Klowa		San Juan	Yuba		Tuolumne			Tuolumne	Calaveras
CA	N	(SC	βÞ	Š		₩		KS S		}	<u><</u>	٧A		8	AL	2	5 ≤	7	ć	5 0	5	5	KS		¥		٨M	š		Ä	4444	ΑN C	Š		ΣZ	CA		S			S	
Indian Valley Dam & Res	Jamestown Dam & Res	1	Jocassee Dam & Res	Kerr Dam Flathead I k	Kerr Dam & Lk Hudson (Mark-	ham Ferry Project).	Keyhole Dam & Res		Kirwin Dam & Res		9 m 0 C c c c c c c c c c c c c c c c c c c	Lake Nellip Dalli & nes	Leesville Dam & Res		Lemon Dam & Res	Lewis M Smith Dam & Res	700/V 0#: -	Little Wood	Logail Maitil Daill & nes	20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Los Banos Dam & Detention	Res.	Lost Creek Dam & Res	Lovewell Dam & Res		Marshall Ford Dam & Res		Mayfield Dam & Res	McGee Creek Dam & Res		Medicine Cr Dam Harry Strunk	LK.	Mossyrock Dam Davisson Lk	Mt Park Dam Iom Steed Hes		Navajo Dam & Res	New Bullards Bar Dam & Res		New Exchequer Dam & Lk			New Melones Dam & Lk	

LIST OF PROJECTS—Continued [Non-Corps projects with Corps Regulation Requirements]

				togica	Chorage	Elev limits feet	its feet	Area in acres	acres		
Project name 1	State	County	Stream 1	purpose 2	1000 AF	Upper	Lower	Upper	Lower	Authorizing legis. 3	Proj. owner ⁴
Col. No. 1	2	3	4	5	9	7	8	6	10	11	12
Northfield Mt (Up) PS	X X	Franklin Norton	Connecticut Prairie Dog Cr	E F IMRC	14.0 98.8 30.7	965.0 2331.4 2304.3	938.0 2304.3 2280.4	196 5316 2181	134 2181 587	PERC 1889 PL 78–534 PL 79–526	WMEC. USBR.
Ochoco Dam & Res	CA	CrookButte	Ochoco Cr	FICR FEIMAR	52.5 750.0	3136.2	0.0 848.5	1130	13346	PL 85–500	USBR. CA.
Pactola Dam & Res	SD			I L M	43.1	4621.5 4580.2	4580.2 4456.1	1230	100	PL 78–534	USBR.
Palisades Dam & Res	98	Bonneville	Snake R Muddy Cr	# E	1202.0	5620.0 6447.5	5452.0 6373.0	334	2170	PL 81–864 PL 80–177	USBR. USBR.
Pensacola Dam Grand Lake O' the Cherokees.	ð	Mayes	Grand (Neosho) R	шш	525.0	755.0	745.0	59200	46500	PL 77–228	Grd, Auth.
Pineview Dam & Res	58	Weber	Odgen RConejos R	FEIM	110.0	10034.0	4818.0	947	920	PL 81–273 PL 76–640	USBR. USBR.
Priest Rapids Dam & Res Prineville Dam & Res Prosser Cr Dam & Res	¥00 A E A	Grant	Columbia R Crooked R	FER FIRC C	233.0 8.6	488.0 3257.9 5703.7	3114.0 5661.0	3997 3997 334	6500 140 86	FERC No 2114-A PL-84-992 PL 84-858	Gmt, PUD. USBR. USBR.
Pueblo Dam & Res Red Willow Dam Hugh Butler Lk.	S Ä	Pueblo	Arkansas R Red Willow Cr	7 T E T E	20.0 93.0 261.4 48.9 27.3	2604.9 2581.8	5703.7 4880.5 4764.0 2581.8 2558.0	745 5671 4640 2682 1629	334 4640 421 1629 787	PL 85–706	USBR. USBR.
Ririe Dam & Res	0		Willow Cr	FIRC	0.66	5119.0	5023.0	150	360	PL 84–505	USBR.
Roanoke Rapids Dam & Res Rocky Reach Dam Lk Entiat Rocky River PS I k Candlewood	N & E	HalifaxChelan	Roanoke R Columbia R	EC EB	16.8 36.0	132.0 707.0	128.0 703.0 418.0	4600 9920 5608	4100 9490 4692	FPC 2009 FERC No 2145	VA, Pwr. Chin PUD. Cl PC
Ross Dam & Res	\$¥ ¥ ¥		Skagit R	F E F	1052.0 462.1 761.3	1602.5 2965.0 2941.3	1475.0 2941.3 2860.0	11700 21640 17320	4450 17320 4500	FERC 553	Stil. USBR.
Savage River Dam & Res Scoggins Dam Henry Hagg Lk Shadehill Dam & Res	MD SD	Garrett	Savage R Scoggins Cr Grand R	FMA FIR	20.0 20.0 218.3 80.9	1468.5 305.8 2302.0	1317.0 235.3 2271.9	366 116 9900 4800	0 4 4 800 800	PL 78–534 PL 89–596 PL 78–534	Ptmc Comm. USBR. USBR.
Shasta Dam LkShepaug Dam & Lk	S P	ShastaLitchfield	Sacramento R	FEIA EIA E	1300.0 3241.0 5.0	1067.0 1018.6 200.0	1018.6 735.8 172.0	29570 23894 1882	23894 2200 1125	PL 75–392	USBR. CLPC.

Appl Pwr.	USBR.	USBR.	SC E&G.	CLPC.	USBR.	BIA.	USBR.			USBR.		WMEC	USBR		USBR		Pgt	Z .	USBR	NFPC	i tu	<u>B</u>	USBR	Vale	USBR	₹	USBR			AL Pwr		Dgls		S B S		ļ	
20200 Fed Pwr Act	PL 84-858	PL 84-485	FERC 2535	FERC 2576	PL 83-780	PL 89-298	PL 78-534			PL 78-534	PL 84-505	FERC 1889	PL 85-152	PL 78-534	PL 83-774		PL 89–298	FERC 2150B	PL 61–288	FFRC 1904	FFRC No 2114-R	:	PL 81-273	PL 78-534		PL 78-534	PL 78-534	PL 79-526	PL 79-732	PL 83-436		FERC No 2149	FEBC 1803	PI 78–534			
20200	3230 210	689	0	516	0	0	17890	13790	11710	4922	1572	1880	23510	029	2556	0	2375		320	1980	13350		121	06		890	3772	906		30200	19545	8000	0770	12600	6915	4150	
20600	3430 3230	3310	4300	1148	2835	11790	23150	17890	13790	7940	4922	2110	23510	9080	3671	2556	4985		2720	2550	14300	2	1077	460		1330	8480	3772		20000	30200	10000	2100	17280	12600	6915	=
793.0	5942.1 5798.0	5595.0	183.0	80.0	4200.0	1480.0	2993.0	2976.0	2966.4	2752.0	2720.0	176.0	1940.2	1885.0	623.0	504.0	674.0		7582.5	2121	560.0	9	5930.0	3327.0		592.0	1892.5	1860.0		564.0	558.0	771.0	280.0	3640.0	3614.0	3547.0	
795.0	5949.0 5942.0	5712.0	187.5	108.0	4261.0	1539.0	3012.5	2993.0	2976.0	2773.0	2752.0	185.0	1969.1	1940.2	651.5	623.0	724.0		7665.0	220.1	571 5	5	6037.0	3406.0		617.5	1923.7	1892.5		574.0	564.0	781.0	385.0	3657.0	3640.0	3614.0	-
40.8	22.0 199.4	165.3	10.5	2.0	51.4	198.5	400.9	268.0	121.7	134.1	8.66	8.7	424.4	150.0	8.68	135.6	184.6		125.4	183	151.6	5	61.0	191.0		27.7	183.4	72.1		397.0	148.4	74.0	4.0	258.3	2403	336.1	
ш	E E	FIM		Ш	E	FIC	L	<u></u>	<u>o</u>	<u></u>	IRC	ш	ш.		ш.		H	į	<u> </u>	ш	H.	<u></u>	FEIM	FICR		FP	ш	IRC		L 1	ш	FER	Ц	J 14	FFIO	В	
Roanoke R	Little Truckee R	Strawberry R	Savannah River	Housatonic R	Pecos R	Santa Rosa Wash	Marias R			Republican R		Connecticut R	Concho R		Cuyama R		Baker R	i	Los Pinos R	Connecticut B	Columbia B		Weber R	Middle Fork	Malheur R.	Little R	S Fork Solomon R			Coosa R		Columbia R	Connecticut B	Bighorn B			
Bedford Franklin Roanoke Pttsylvnia	Sierra	Duchesne	Columbia	Litchfield	De Baca	Pinal	Libert Toole			Hitchcock		Franklin	Tom Green		Santa Barbara		Whatcom		La Plata	Windham	Grant	5	Summit	- :		Washington	Rocks			Cherokee		Douglas	Windsor	Big Horn	D I		-
\$	S	5	ВA	S	ΣZ	ΑZ	Ψ			R		ΜA	ĭ		S		W		္ပ	5	W	•	5	OR		5	Š			F		× ×	5	> \			-
Smith Mtn Dam & Res	Stampede Dam & Res	Starvation Dam and Res	Stevens Creek Dam & Res	Stevenson Dam Lk Zoar	Summer Dam & Lk	Tat Momolikot Dam & Lake	Tiber Dam & Res			Trenton Dam & Res		Turners Falls (Low) Dam & Lk	Twin Buttes Dam & Lake		Twitchell Dam & Res		Upper Baker Dam Baker Lk		Vallecito Dam & Res	Vernon Dam & 1 k	Wananim Dam & Bes	**************************************	Wanship Dam & Rockport	Warm Springs Dam & Res		Waterbury Dam & Res	Webster Dam & Res			Weiss Dam & Res		Wells Dam L Pateros	Wilder Dam & Lk	Vellowtail Dam & Bighorn 1 k			

¹Cr—Creek; CS—Control Structure; Div—Diversion; DS—Drainage Structure; FG—Floodgate; FK—Fork; GIWW—Gulf Intercoastal Waterway; LK—Lake; L&D—Lock & Dam; PS—Pump Station; R—River; Res—Reservoir 2 F—Flood Control; N—Navigation; P—Corps Hydropower; E—Non Corps Hydropower; I—Irrigation; M—Municipal and/or Industrial Water Supply; C—Fish and Wildlife Conservation; A—Low Flood Control Abatement; R—Recreation; Q—Water Quality or Silt Control Silt Control Works; PW—Public Works; RHA—River & Harbor Act; SD—Senate Document; PL—Public Law; PW—Public Works; RHA—River & Harbor Act; SD—Senate Document; PL—Water Supply Act

4 Appl Pwr—Appalachian Power: Chin PUD—Chelan Cnty PUD 1; CLPC—CT Light & Power Co; Dgis PUD—Douglas Cnty PUD 1; DWR—Department of Water Resources; EB-MUD—East Bay Municipal Utility Dist; GRD—Grand River Dam Auth; Grnt PUD—Grant Cnty PUD 2; Hnbl—city of Hannibal; M&T Inr—Modesto & Turlock Irr; Mrcd Irr—Merced Irr; NEPC—New England Power Co; pgr R&L—Pugent Sound Power & Light; Phiroc Comm—Upper Potomac R Comm; Rolm B—Reclamation Board; Rird—city of Rockford; StIt—city of Seattle; Tac—City of Tacoma; Vale USBR—Gow, Vale Ir 50%, USBR; WR&CWID—City of Wichita Falls and Wichita Cnty Water Improvement District No. 2; WMEC—Western MA Electric Co; YCWA—Y uba City Water Auth; Yolo FC&W—Yolo Flood Control & Water Conserv Dist

89 83-436, (Sec. 7, Pub. L. 78-534, 58 Stat. 890 (33 U.S.C. 709); the Federal Power Act, 41 Stat. 1063 (16 U.S.C. 791(A)); and sec. 9, Pub. L. Stat. 303)

[43 FR 47184, Oct. 13, 1978, as amended at 46 FR 58075, Nov. 30, 1981; 55 FR 21508, May 24, 1990]